UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

By Email

URGENT LEGAL MATTER
REQUIRES PROMPT RESPONSE

Dated by electronic signature

Michael D. Sessine, Plant/Project Manager
Brockton Silver Lake Filtration Facility
1 Silver Lake Road/Route 36
Pembroke, MA, 02359

Re: Clean Air Act Testing and Reporting Requirement for City of Brockton Silver Lake Filtration Facility located at 1 Silver Lake Road in Pembroke, MA

Dear Mr. Sessine:

The United States Environmental Protection Agency ("EPA") is requiring the City of Brockton Silver Lake Filtration Facility ("BSLFF") to conduct emission retesting of its one engine, designated as EG1, to determine compliance with the Clean Air Act ("CAA") and requirements promulgated under the CAA at its facility located at 1 Silver Lake Road in Pembroke, Massachusetts. These CAA requirements include the National Emission Standards for Hazardous Air Pollutants for stationary reciprocating internal combustion engines ("RICE" or "engines") found at 40 CFR Part 63, Subpart ZZZZ ("Subpart ZZZZ").

Section 114(a)(1) of the Act, 42 U.S.C. § 7414(a)(1), gives EPA the authority to require any person who owns or operates any emission source to establish and maintain records, make reports, sample emissions, and provide such other information as may reasonably be required to enable EPA to determine whether such person is in compliance with the CAA and its implementing regulations.

EPA's review of the final test report, dated July 25, 2022, regarding the testing done on EG1 on June 14, 2022, indicates that the average engine load during the performance testing was 555 kilowatts ("kW"). The final test report states that EG1 is oversized by design with a power rating of 2000 kW. The report also states that, historically, from 2010 through 2018, prior to BSLFF entering into a demand response program, National Grid supplied a maximum demand of 926 kW to the facility. Going forward, BSLFF has indicated that the maximum engine load to EG1 is not expected to exceed 920 kW.

For facilities such as BSLFF that are considered area sources of hazardous air pollutants, EPA relies on its CAA National Stack Test Guidance, dated April 27, 2009. This guidance states that testing should be conducted under "representative" (normal) operating conditions. The following is an excerpt from the stack test guidance:

> *In light of the fact that: (a) the Act requires that facilities continuously comply with emission limits; (b) the NSPS, MACT, and NESHAP programs all require that performance tests be conducted under such conditions as the Administrator specifies; and (c) the NSPS and MACT programs further require that such tests be conducted under representative operating conditions; EPA recommends that performance tests be performed under those representative (normal) conditions that:*
>
> *-represent the range of combined process and control measure conditions under which the facility expects to operate (regardless of the frequency of the conditions); and*
>
> *-are likely to most challenge the emissions control measures of the facility with regard to meeting the applicable emission standards, but without creating an unsafe condition.*

EPA has determined that, for engines, the operating conditions that most challenge the emissions control measures are found at the highest engine loads that an engine is likely to operate at.

Therefore, EPA has determined that the testing of EG1 at low engine load conditions, during the June 14, 2022 testing, has rendered the testing incomplete and invalid for purposes of demonstrating compliance with Subpart ZZZZ.

As such, EPA is requiring that BSLFF retest Engine EG1 as follows:

Testing Requirement

BSLFF shall develop an emissions testing protocol[1] for EPA approval that describes the following elements in detail and shall subsequently conduct emissions testing for EG1. In particular, BSLFF shall:

1. For the emission testing protocol, determine the normal process operating conditions that produce the highest emissions for EG1 and/or the most challenging conditions regarding the emissions standard, and test at or near those conditions.[2] With regards to engine load, please conduct the testing such that the average engine load, based on the three one-hour test run averages combined, is at, or very near, 920 kW.
   a. Provide background data to support your conclusions regarding the test load.[3]

[1] Please see guidance document *GD 42 - Preparation and Review of Site Specific Test Plans (PDF), Revised March 1999* on the Air Emission Measurement Center (EMC)website: https://www3.epa.gov/ttn/emc/guidlnd/gd-042.pdf

[2] See EPA's Clean Air Act National Stack Test Guidance from April 27, 2009 https://www.epa.gov/sites/production/files/2013-09/documents/stacktesting_1.pdf

[3] Note that if after testing you operate above the approved test load level, such that the test conditions are no longer representative of normal operating conditions, EPA may require testing at that higher load to confirm compliance with emission limits.

b. Indicate if a load bank is to be used.

2. Follow the testing procedures described in 40 CFR §63.6620 and Table 4.
3. As described in 40 CFR §63.6620(d), conduct three one-hour test runs in accordance with the test methods described in Table 4.
4. Within a week before testing, conduct performance evaluations on the continuous parameter monitoring systems associated with EG1 (i.e., the monitoring device used to continuously measure and record the temperature at the inlet to the oxidation catalyst, and the monitoring device used to measure and record the pressure drop across the oxidation catalyst), in accordance with your site-specific monitoring plan as required by 40 CFR § 63.6625(b)(6).

BSLFF shall prepare for and conduct emissions testing according to the following <u>schedule</u>:

5. Within 60 days of the date BSLFF receives this letter, prepare and email to EPA for review an emissions testing protocol that incorporates the procedures described above.
6. Within 30 days of receiving EPA comments on the emissions testing protocol, revise and resubmit the emissions testing protocol in accordance with EPA's comments or required changes. EPA shall approve, approve with conditions, or disapprove the revised emissions testing protocol in writing.
7. Within 30 days of the date EPA approves the protocol, hold a pre-test meeting[4] with EPA and schedule the testing date(s). The testing must take place no later than 60 days after the pre-test meeting.
8. Within 45 days of completing the testing, submit to EPA:
   a. A notification of compliance status report (NOCS)[5] including the results of the performance test[6] and a percent load report to EPA (see 40 CFR §§63.6645(h) and 63.6620(i)); and
   b. The results of the performance evaluations (see 40 CFR §63.6625(b)(6)).

Please see the Attachment to the Testing and Reporting Requirement for more information about the key elements of testing under Subpart ZZZZ.

<u>Reporting Requirement</u>

9. Provide to EPA, on a monthly basis, for 12 months following testing, daily average loads for Engine EG1.

Be aware that if BSLFF does not provide the information and perform the testing required in a timely manner, EPA may order it to comply and may assess monetary penalties under Section 113 of the Clean Air Act. Federal law establishes criminal penalties for providing false information to EPA. This letter is not subject to Office of Management and Budget review pursuant to the Paperwork Reduction Act, 44 U.S.C. Chapter 35.

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[4] Note that due to COVID-19, this meeting may need to take place virtually.

[5] In addition to providing EPA with a courtesy email copy, to meet electronic signature requirements you either need to submit a signed paper copy of the NOCS or an electronic copy via CEDRI (https://www.epa.gov/electronic-reporting-air-emissions/cedri).

[6] Please see guidance document *GD 43 - Preparation and Review of Emission Test Reports (PDF), December 1998* on the Air Emission Measurement Center (EMC) website: https://www3.epa.gov/ttn/emc/guidlnd/gd-043.pdf

You may assert a business confidentiality claim covering part or all of the information requested, in the manner described by 40 CFR § 2.203(b). Information covered by such a claim will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 CFR Part 2, Subpart B. Note that certain categories of information, such as emission data, are not properly the subject of such a claim. If no such claim accompanies the information when EPA receives it, EPA may make the information available to the public without further notice to you.

Provide the above-required information electronically via email[7] to mccusker.tom@epa.gov. Please provide separate electronic files for each report you submit. If you have any questions regarding this Testing Requirement, please contact Tom McCusker at (617) 918-1862, or have your attorney call Michael Wagner at (617) 918-1735.

Sincerely,

JAMES CHOW Digitally signed by JAMES CHOW
Date: 2022.10.21 10:26:58 -04'00'

James Chow, Deputy Director
Enforcement and Compliance Assurance Division

By electronic cc: Tom Cushing, MassDEP
Dan DiSalvio, MassDEP
Jerry Keefe, US EPA Region 1
Patrick Hill, City of Brockton DPW Commissioner

[7] Note that EPA cannot receive email messages with files larger than 25 MB. If your submissions are larger than 25 MB, please zip the files or send separate email messages. Also, please provide any reports as separate electronic files rather than one combined file.

Attachment to EPA Clean Air Act Testing and Reporting Requirement for City of Brockton Silver Lake Filtration Facility

Key Elements of 40 CFR Part 63, Subpart ZZZZ Testing (For Engines >500 hp located at Area Sources)

EPA Region 1 has found that that successful stack tests under Subpart ZZZZ tend to involve close coordination between and among the stack test team, the regulated entity, and EPA and the state (if involved). Everyone involved in the testing should fully understand the testing requirements as well as the on-going reporting requirements of the rule. Please note that in addition to stack testers/consultants, EPA Region 1 recommends and prefers that at least one representative from the facility be on site for stack testing. Regulated entities must submit not only a final test report but a notification of compliance status[8]. The final test report and a written report of the average percent load determination must be included in the notification of compliance status,[9] and some of the information required to prepare this report must be gathered at the time of testing.

Subpart ZZZZ facilities required to install a continuous parameter monitoring system (CPMS) are required to prepare a site specific monitoring plan (SSMP) that includes all the elements required by Subpart ZZZZ and 40 CFR §63.6625(b)(1)(i)-(v)) and §63.8(d)). Performance evaluations of the CPMSs are required to be conducted at, or near, the time of testing and annually thereafter following the procedures outlined in the SSMP. Such facilities should pay close attention to monitoring system design, data collection, and the quality assurance and quality control elements of the CPMSs, associated with the engine(s), used to measure and record the oxidation catalyst inlet temperature, and in many cases, the pressure differential across the oxidation catalyst, as outlined in the SSMP.

Helpful resources about 40 CFR Part 63, Subpart ZZZZ (the RICE NESHAP) are available here: https://www.epa.gov/stationary-engines/national-emission-standards-hazardous-air-pollutants-reciprocating-internal-0

The stack test team should be familiar with the provisions of the 40 CFR Part 63, Subpart ZZZZ including but not limited to:

- §63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
- §63.6620 What performance tests and other procedures must I use?
- §63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?
- §63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

[8] See 40 CFR §§63.6645(h) and 63.9(h)(2)
[9] See 40 CFR §63.6620(i)

And, the regulated entity should be familiar with the provisions of the 40 CFR Part 63, Subpart ZZZZ including but not limited to:

- §63.6635 How do I monitor and collect data to demonstrate continuous compliance?
- §63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?
- §63.6645 What notifications must I submit and when?
- §63.6650 What reports must I submit and when?
- §63.6655 What records must I keep?

Test Protocol

As described in 40 CFR §63.7, the owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test. EPA has authority to request a site-specific test plan[10] (or test protocol) and have an observer present for the test. Given this, EPA Region 1 requests that facilities submit a site-specific test plan 60 days in advance of any performance test. EPA Region 1 often provides comments on these test plans. Facilities must address these comments and submit revised plans to EPA in advance of testing as required under 40 CFR §63.7.

With respect to the content of a test protocol, follow the criteria of 40 CFR Part 63, Subpart A and Subpart ZZZZ. Make sure to include the following key elements:

1. Include a table with the name, roles, and contact information for all personnel who will be involved with the test. Indicate who will collect the test data and who will collect the process parameter data.
2. For each engine to be tested, provide the make, model, serial number, date of manufacture, and brake horsepower rating.
3. Describe the expected load levels for the test, including how they will be maintained. For example, indicate whether a load bank will be used. If the test is to be conducted at **less** than 100% ± 10% of the engines' rated capacity, determine the normal process operating conditions that produce the highest emissions and/or the most challenging conditions with regard to the emissions standard, and test at or near those conditions[11]. Provide background data to support your conclusions regarding test load[12].
4. Provide specific detail in the protocol regarding where and how load readings (e.g., in kilowatts) will be recorded. Describe the meter used to measure the load, including its accuracy.

[10] Please see Guidance Document 42: GD 42 - Preparation and Review of Site Specific Test Plans (PDF) https://www.epa.gov/sites/production/files/2020-08/documents/gd-042.pdf

[11] See EPA's Clean Air Act National Stack Test Guidance from April 27, 2009 https://www.epa.gov/sites/production/files/2013-09/documents/stacktesting_1.pdf

[12] Note that if after testing you operate above the approved test load level, such that the test conditions are no longer representative of normal operating conditions, EPA may require testing at that higher load to confirm compliance with emission limits.

5. Provide description of any continuous parameter monitoring system (CPMS) equipment that the facility uses. Describe how applicable operating parameters such as inlet catalytic oxidizer temperature and catalytic oxidizer pressure differential will be measured. Include a description of the parameter sampling locations, and probe identification numbers as they are described in the Site-Specific Monitoring Plan.
6. Describe how the process parameter data will be collected, reduced, and reported in the final test report.
7. Include a quality assessment/quality control ("QA/QC") plan that addresses both the emissions results and the process data. The QA/QC plan should include an assessment of process parameter data that describes all performance evaluations conducted during the previous year.
8. Include a diagram of the pollution control devices showing the locations of emissions sampling ports and process parameters.
9. Include photographs of the engines, pollution control devices, inlet and outlet sampling locations and parameter monitoring locations. Where possible, provide dimensions on the photo of stack diameters and distance to upstream/downstream disturbances. Specifically, include photos of the:
    a. engine nameplate;
    b. engine installation location;
    c. oxidation catalyst;
    d. oxidation catalyst nameplate;
    e. oxidation catalyst inlet and outlet locations;
    f. each stack and stack sample locations; and
    g. engine data readout panel showing the location for process parameters.
10. Describe the ambient weather data you plan to collect.
11. For ease of reference, include in the protocol:
    a. A copy of the facility's permit; and
    b. A copy of the testing order, if EPA has ordered the facility to conduct the test.

Reporting

12. Submit the notifications required by 40 CFR §63.6645 and 40 CFR Part 63, Subpart A including but not limited to the following:
    a. A Notification of Intent to Test at least 60 days before the performance test is scheduled to begin (see 40 CFR §63.7(b)(1))
    b. A Notification of Compliance Status before the close of business on the 60th day following the completion of the performance test (see 40 CFR §§63.9(h)(2)(ii) and 63.10(d)(2)). The final test report[13] including a written report of the average percent load determination (see 40 CFR §63.6620(i)) shall be submitted as part of the Notification of Compliance Status.
        i. The following information must be included in the written report:
            1. the engine model number;
            2. the engine manufacturer;
            3. the year of purchase;
            4. the manufacturer's site-rated brake horsepower; and

[13] Please see Guidance Document 43: GD 43 - Preparation and Review of Emission Test Reports (PDF) https://www.epa.gov/sites/production/files/2020-08/documents/gd-043.pdf

5. the ambient temperature, pressure, and humidity during the test.

ii. Note that the engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application.

iii. Explain all assumptions used to estimate or calculate percent load during the performance test. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, provide the model number of the measurement device, and an estimate of its accuracy (in percentage of true value).

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